

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Please cancel claims 29-31, 41 and 50-53, without prejudice or disclaimer.

Listing of Claims:

Claims 1-28 (previously canceled)

Claims ~~29-31~~ (canceled)

Claims 32-40 (previously canceled)

Claim ~~41~~ (canceled)

Claims 42-47 (previously canceled)

48. (Currently Amended) A field-structured sensor to measure an environmental parameter, comprising:

a) a field-structured composite comprising a solid nonconducting medium, and an ordered aggregate structure of conducting magnetic particles within said medium;

b) electrodes positioned to allow the electrical resistance of said composite to be measured; and,

c) a coupling mechanism which couples the environmental parameter to said composite ~~The field-structured sensor of claim 29~~, wherein the environmental parameter is concentration of a selected chemical in a background carrier, and the coupling mechanism exposes the composite to said carrier.

49. (Previously added) The field-structured sensor of claim 48, wherein the nonconducting medium changes volume when exposed to the selected chemical.

50. (Previously added) The field-structured sensor of claim 48, wherein the surface stress of the nonconducting medium changes when exposed to the selected chemical.

Claims 51-53 (canceled) ✓